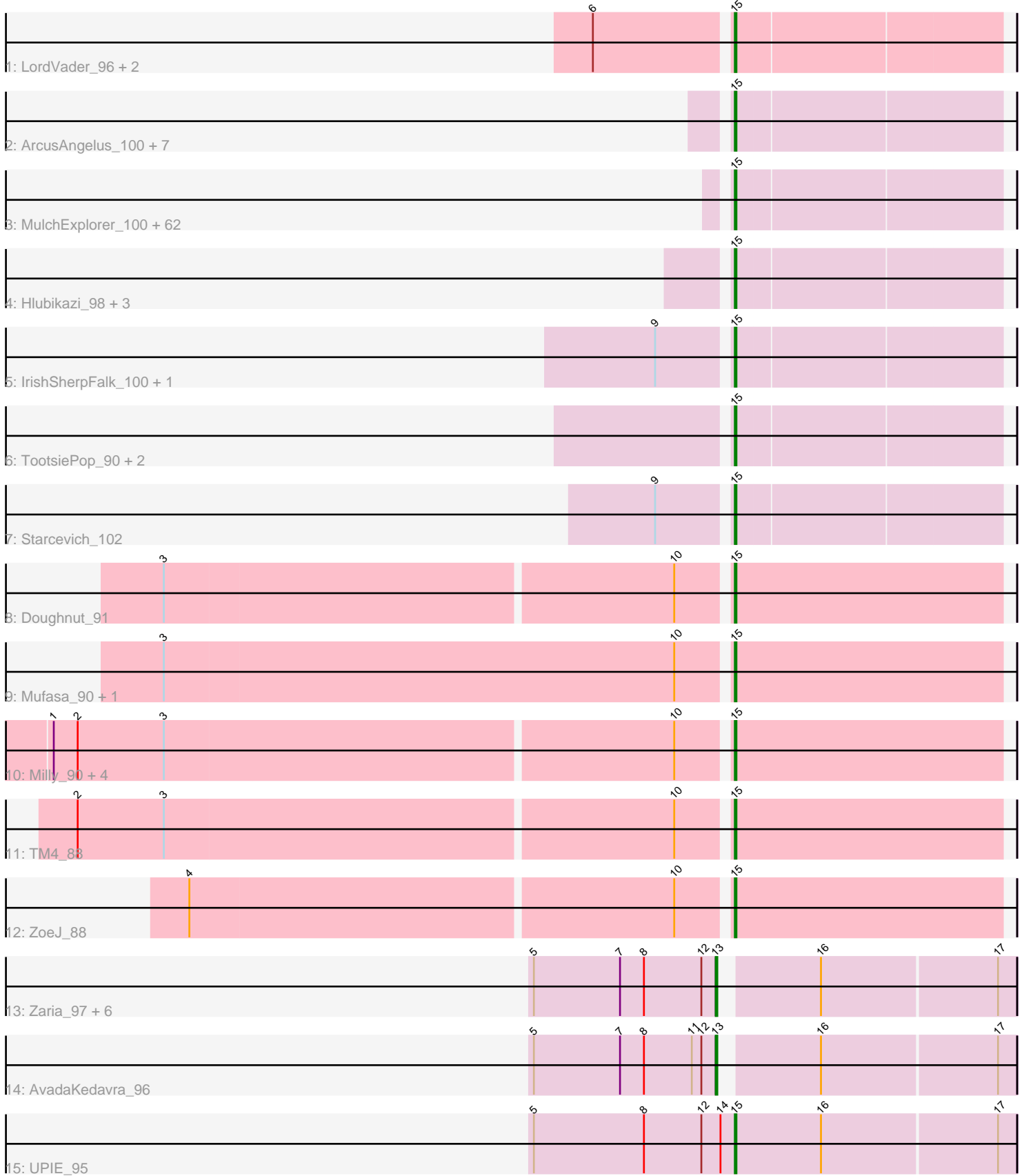


Pham 311419



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 311419 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311419 has 103 members, 3 are drafts.

Phages represented in each track:

- Track 1 : LordVader\_96, Squirty\_99, MulchSalad\_102
- Track 2 : ArcusAngelus\_100, Galactic\_104, QuickMath\_101, Chevrolet\_104, MadMen\_105, Hades\_97, EleanorGeorge\_104, MinionDave\_98
- Track 3 : MulchExplorer\_100, Rockne\_103, RitaG\_99, LilMoolah\_103, BuzzLyseyear\_107, Radiance\_98, BodEinwohner17\_110, Mattes\_101, Gorge\_99, Cheesepuff\_105, Saal\_98, Madiba\_99, Moonbeam\_103, Donkeykong\_106, Empress\_100, Ogopogo\_104, Daenerys\_98, Gandolph\_100, Juice456\_99, Latretium\_103, Sassafras\_102, Inventum\_98, Krakatau\_93, Peridot\_103, Plumbus\_99, RedBird\_101, ByChance\_91, Alexphander\_101, Fancypants\_107, Doomphist\_105, DillTech15\_106, KingMidas\_100, ShiLan\_103, Yorick\_96, Nimbo\_92, Lij\_95, JoeyJr\_103, Leperchaun\_102, PHappiness\_100, BlueCrab\_103, Deb65\_93, DRBy19\_100, Spoonbill\_100, Jarcob\_103, Spartacus\_107, Totinger\_103, Poenanya\_104, TDanisky\_108, Minnie\_95, Polka14\_104, OldBen\_97, Rialto\_105, GUmble\_99, Dorothy\_101, Pollywog\_102, Nivrat\_100, Drago\_99, PMC\_99, Geralt\_93, DaddyRickover\_102, Scottish\_100, Sparkdehlily\_107, Estave1\_108
- Track 4 : Hlubikazi\_98, Mandlovu\_98, Ramsey\_105, Strokeseat\_98
- Track 5 : IrishSherpFalk\_100, WillSterrel\_98
- Track 6 : TootsiePop\_90, Misha28\_90, Piper2020\_95
- Track 7 : Starceвич\_102
- Track 8 : Doughnut\_91
- Track 9 : Mufasa\_90, BoostSeason\_90
- Track 10 : Milly\_90, Strobilo\_91, DismalFunk\_90, DismalStressor\_90, Findley\_90
- Track 11 : TM4\_88
- Track 12 : ZoeJ\_88
- Track 13 : Zaria\_97, Wyatt2\_97, Tyson\_98, Acquire49\_96, Halena\_94, MAckerman\_95, Calm\_98
- Track 14 : AvadaKedavra\_96
- Track 15 : UPIE\_95

### ***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 15, it was called in 92 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_101, ArcusAngelus\_100, BlueCrab\_103, BodEinwohner17\_110, BoostSeason\_90, BuzzLyseyear\_107, ByChance\_91, Cheesepuff\_105, Chevrolet\_104, DRBy19\_100, DaddyRickover\_102, Daenerys\_98, Deb65\_93, DillTech15\_106, DismalFunk\_90, DismalStressor\_90, Donkeykong\_106, Doomphist\_105, Dorothy\_101, Doughnut\_91, Drago\_99, EleanorGeorge\_104, Empress\_100, Estave1\_108, Fancypants\_107, Findley\_90, GUmbie\_99, Galactic\_104, Gandolph\_100, Geralt\_93, Gorge\_99, Hades\_97, Hlubikazi\_98, Inventum\_98, IrishSherpFalk\_100, Jarcob\_103, JoeyJr\_103, Juice456\_99, KingMidas\_100, Krakatau\_93, Latretium\_103, Leperchaun\_102, LilMoolah\_103, Llij\_95, LordVader\_96, MadMen\_105, Madiba\_99, Mandlovu\_98, Mattes\_101, Milly\_90, MinionDave\_98, Minnie\_95, Misha28\_90, Moonbeam\_103, Mufasa\_90, MulchExplorer\_100, MulchSalad\_102, Nimbo\_92, Nivrat\_100, Ogopogo\_104, OldBen\_97, PHappiness\_100, PMC\_99, Peridot\_103, Piper2020\_95, Plumbus\_99, Poenanya\_104, Polka14\_104, Pollywog\_102, QuickMath\_101, Radiance\_98, Ramsey\_105, RedBird\_101, Rialto\_105, RitaG\_99, Rockne\_103, Saal\_98, Sassafras\_102, Scottish\_100, ShiLan\_103, Sparkdehlily\_107, Spartacus\_107, Spoonbill\_100, Squirty\_99, Starcevich\_102, Strobilo\_91, Strokeseat\_98, TDanisky\_108, TM4\_88, TootsiePop\_90, Totinger\_103, UPIE\_95, WillSterrel\_98, Yorick\_96, ZoeJ\_88,

Genes that have the "Most Annotated" start but do not call it:

- 

Genes that do not have the "Most Annotated" start:

- Acquire49\_96, AvadaKedavra\_96, Calm\_98, Halena\_94, MAckerman\_95, Tyson\_98, Wyatt2\_97, Zaria\_97,

### Summary by start number:

Start 13:

- Found in 8 of 103 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 8 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_96 (L1), AvadaKedavra\_96 (L1), Calm\_98 (L1), Halena\_94 (L1), MAckerman\_95 (L1), Tyson\_98 (L1), Wyatt2\_97 (L1), Zaria\_97 (L1),

Start 15:

- Found in 95 of 103 ( 92.2% ) of genes in pham
- Manual Annotations of this start: 92 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alexphander\_101 (F1), ArcusAngelus\_100 (F1), BlueCrab\_103 (F1), BodEinwohner17\_110 (F1), BoostSeason\_90 (K2), BuzzLyseyear\_107 (F1), ByChance\_91 (F1), Cheesepuff\_105 (F1), Chevrolet\_104 (F1), DRBy19\_100 (F1), DaddyRickover\_102 (F1), Daenerys\_98 (F1), Deb65\_93 (F1), DillTech15\_106 (F1), DismalFunk\_90 (K2), DismalStressor\_90 (K2), Donkeykong\_106 (F1), Doomphist\_105 (F1), Dorothy\_101 (F1), Doughnut\_91 (K2), Drago\_99 (F1), EleanorGeorge\_104 (F1), Empress\_100 (F1), Estave1\_108 (F1), Fancypants\_107 (F1), Findley\_90 (K2), GUmbie\_99 (F1), Galactic\_104 (F1), Gandolph\_100 (F1), Geralt\_93 (F1), Gorge\_99 (F1), Hades\_97 (F1), Hlubikazi\_98 (F1), Inventum\_98 (F1), IrishSherpFalk\_100 (F1), Jarcob\_103 (F1), JoeyJr\_103 (F1), Juice456\_99 (F1), KingMidas\_100 (F1), Krakatau\_93 (F1), Latretium\_103 (F1),

Leperchaun\_102 (F1), LilMoolah\_103 (F1), Llij\_95 (F1), LordVader\_96 (F), MadMen\_105 (F1), Madiba\_99 (F1), Mandlovu\_98 (F1), Mattes\_101 (F1), Milly\_90 (K2), MinionDave\_98 (F1), Minnie\_95 (F1), Misha28\_90 (F1), Moonbeam\_103 (F1), Mufasa\_90 (K2), MulchExplorer\_100 (F1), MulchSalad\_102 (F7), Nimbo\_92 (F1), Nivrat\_100 (F1), Ogoopogo\_104 (F1), OldBen\_97 (F1), PHappiness\_100 (F1), PMC\_99 (F1), Peridot\_103 (F1), Piper2020\_95 (F1), Plumbus\_99 (F1), Poenanya\_104 (F1), Polka14\_104 (F1), Pollywog\_102 (F1), QuickMath\_101 (F1), Radiance\_98 (F1), Ramsey\_105 (F1), RedBird\_101 (F1), Rialto\_105 (F1), RitaG\_99 (F1), Rockne\_103 (F1), Saal\_98 (F1), Sassafras\_102 (F1), Scottish\_100 (F1), ShiLan\_103 (F1), Sparkdehlily\_107 (F1), Spartacus\_107 (F1), Spoonbill\_100 (F1), Squirty\_99 (F3), Starceвич\_102 (F1), Strobilo\_91 (K2), Strokeseat\_98 (F1), TDanisky\_108 (F1), TM4\_88 (K2), TootsiePop\_90 (F1), Totinger\_103 (F1), UPIE\_95 (L1), WillSterrel\_98 (F1), Yorick\_96 (F1), ZoeJ\_88 (K2),

### **Summary by clusters:**

There are 6 clusters represented in this pham: F1, F3, F7, F, K2, L1,

Info for manual annotations of cluster F1:

- Start number 15 was manually annotated 80 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 15 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster K2:

- Start number 15 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster L1:

- Start number 13 was manually annotated 8 times for cluster L1.
- Start number 15 was manually annotated 1 time for cluster L1.

### **Gene Information:**

Gene: Acquire49\_96 Start: 59453, Stop: 59626, Start Num: 13

Candidate Starts for Acquire49\_96:

(5, 59339), (7, 59393), (8, 59408), (12, 59444), (Start: 13 @59453 has 8 MA's), (16, 59507), (17, 59615),

Gene: Alexphander\_101 Start: 55198, Stop: 55359, Start Num: 15

Candidate Starts for Alexphander\_101:

(Start: 15 @55198 has 92 MA's),

Gene: ArcusAngelus\_100 Start: 55168, Stop: 55329, Start Num: 15

Candidate Starts for ArcusAngelus\_100:

(Start: 15 @55168 has 92 MA's),

Gene: AvadaKedavra\_96 Start: 59565, Stop: 59738, Start Num: 13

Candidate Starts for AvadaKedavra\_96:

(5, 59451), (7, 59505), (8, 59520), (11, 59550), (12, 59556), (Start: 13 @59565 has 8 MA's), (16, 59619), (17, 59727),

Gene: BlueCrab\_103 Start: 55675, Stop: 55836, Start Num: 15  
Candidate Starts for BlueCrab\_103:  
(Start: 15 @55675 has 92 MA's),

Gene: BodEinwohner17\_110 Start: 56731, Stop: 56892, Start Num: 15  
Candidate Starts for BodEinwohner17\_110:  
(Start: 15 @56731 has 92 MA's),

Gene: BoostSeason\_90 Start: 56740, Stop: 56907, Start Num: 15  
Candidate Starts for BoostSeason\_90:  
(3, 56392), (10, 56710), (Start: 15 @56740 has 92 MA's),

Gene: BuzzLyseyear\_107 Start: 56886, Stop: 57047, Start Num: 15  
Candidate Starts for BuzzLyseyear\_107:  
(Start: 15 @56886 has 92 MA's),

Gene: ByChance\_91 Start: 50198, Stop: 50359, Start Num: 15  
Candidate Starts for ByChance\_91:  
(Start: 15 @50198 has 92 MA's),

Gene: Calm\_98 Start: 59832, Stop: 60005, Start Num: 13  
Candidate Starts for Calm\_98:  
(5, 59718), (7, 59772), (8, 59787), (12, 59823), (Start: 13 @59832 has 8 MA's), (16, 59886), (17, 59994),

Gene: Cheesepuff\_105 Start: 54122, Stop: 54283, Start Num: 15  
Candidate Starts for Cheesepuff\_105:  
(Start: 15 @54122 has 92 MA's),

Gene: Chevrolet\_104 Start: 55169, Stop: 55330, Start Num: 15  
Candidate Starts for Chevrolet\_104:  
(Start: 15 @55169 has 92 MA's),

Gene: DRBy19\_100 Start: 55442, Stop: 55603, Start Num: 15  
Candidate Starts for DRBy19\_100:  
(Start: 15 @55442 has 92 MA's),

Gene: DaddyRickover\_102 Start: 54925, Stop: 55086, Start Num: 15  
Candidate Starts for DaddyRickover\_102:  
(Start: 15 @54925 has 92 MA's),

Gene: Daenerys\_98 Start: 55092, Stop: 55253, Start Num: 15  
Candidate Starts for Daenerys\_98:  
(Start: 15 @55092 has 92 MA's),

Gene: Deb65\_93 Start: 52816, Stop: 52977, Start Num: 15  
Candidate Starts for Deb65\_93:  
(Start: 15 @52816 has 92 MA's),

Gene: DillTech15\_106 Start: 54398, Stop: 54559, Start Num: 15

Candidate Starts for DillTech15\_106:

(Start: 15 @54398 has 92 MA's),

Gene: DismalFunk\_90 Start: 56788, Stop: 56955, Start Num: 15

Candidate Starts for DismalFunk\_90:

(1, 56377), (2, 56392), (3, 56446), (10, 56758), (Start: 15 @56788 has 92 MA's),

Gene: DismalStressor\_90 Start: 56788, Stop: 56955, Start Num: 15

Candidate Starts for DismalStressor\_90:

(1, 56377), (2, 56392), (3, 56446), (10, 56758), (Start: 15 @56788 has 92 MA's),

Gene: Donkeykong\_106 Start: 56558, Stop: 56719, Start Num: 15

Candidate Starts for Donkeykong\_106:

(Start: 15 @56558 has 92 MA's),

Gene: Doomphist\_105 Start: 55745, Stop: 55906, Start Num: 15

Candidate Starts for Doomphist\_105:

(Start: 15 @55745 has 92 MA's),

Gene: Dorothy\_101 Start: 55914, Stop: 56075, Start Num: 15

Candidate Starts for Dorothy\_101:

(Start: 15 @55914 has 92 MA's),

Gene: Doughnut\_91 Start: 56921, Stop: 57088, Start Num: 15

Candidate Starts for Doughnut\_91:

(3, 56579), (10, 56891), (Start: 15 @56921 has 92 MA's),

Gene: Drago\_99 Start: 51641, Stop: 51802, Start Num: 15

Candidate Starts for Drago\_99:

(Start: 15 @51641 has 92 MA's),

Gene: EleanorGeorge\_104 Start: 56559, Stop: 56720, Start Num: 15

Candidate Starts for EleanorGeorge\_104:

(Start: 15 @56559 has 92 MA's),

Gene: Empress\_100 Start: 54008, Stop: 54169, Start Num: 15

Candidate Starts for Empress\_100:

(Start: 15 @54008 has 92 MA's),

Gene: Estave1\_108 Start: 57801, Stop: 57962, Start Num: 15

Candidate Starts for Estave1\_108:

(Start: 15 @57801 has 92 MA's),

Gene: Fancypants\_107 Start: 57307, Stop: 57468, Start Num: 15

Candidate Starts for Fancypants\_107:

(Start: 15 @57307 has 92 MA's),

Gene: Findley\_90 Start: 56807, Stop: 56974, Start Num: 15

Candidate Starts for Findley\_90:

(1, 56396), (2, 56411), (3, 56465), (10, 56777), (Start: 15 @56807 has 92 MA's),

Gene: GUmbie\_99 Start: 53944, Stop: 54105, Start Num: 15

Candidate Starts for GUmbie\_99:

(Start: 15 @53944 has 92 MA's),

Gene: Galactic\_104 Start: 54420, Stop: 54581, Start Num: 15

Candidate Starts for Galactic\_104:

(Start: 15 @54420 has 92 MA's),

Gene: Gandalph\_100 Start: 52050, Stop: 52211, Start Num: 15

Candidate Starts for Gandalph\_100:

(Start: 15 @52050 has 92 MA's),

Gene: Geralt\_93 Start: 52814, Stop: 52975, Start Num: 15

Candidate Starts for Geralt\_93:

(Start: 15 @52814 has 92 MA's),

Gene: Gorge\_99 Start: 55034, Stop: 55195, Start Num: 15

Candidate Starts for Gorge\_99:

(Start: 15 @55034 has 92 MA's),

Gene: Hades\_97 Start: 51586, Stop: 51747, Start Num: 15

Candidate Starts for Hades\_97:

(Start: 15 @51586 has 92 MA's),

Gene: Halena\_94 Start: 58748, Stop: 58921, Start Num: 13

Candidate Starts for Halena\_94:

(5, 58634), (7, 58688), (8, 58703), (12, 58739), (Start: 13 @58748 has 8 MA's), (16, 58802), (17, 58910),

Gene: Hlubikazi\_98 Start: 52547, Stop: 52708, Start Num: 15

Candidate Starts for Hlubikazi\_98:

(Start: 15 @52547 has 92 MA's),

Gene: Inventum\_98 Start: 54102, Stop: 54263, Start Num: 15

Candidate Starts for Inventum\_98:

(Start: 15 @54102 has 92 MA's),

Gene: IrishSherpFalk\_100 Start: 54437, Stop: 54598, Start Num: 15

Candidate Starts for IrishSherpFalk\_100:

(9, 54395), (Start: 15 @54437 has 92 MA's),

Gene: Jarcob\_103 Start: 56015, Stop: 56176, Start Num: 15

Candidate Starts for Jarcob\_103:

(Start: 15 @56015 has 92 MA's),

Gene: JoeyJr\_103 Start: 56010, Stop: 56171, Start Num: 15

Candidate Starts for JoeyJr\_103:

(Start: 15 @56010 has 92 MA's),

Gene: Juice456\_99 Start: 53720, Stop: 53881, Start Num: 15

Candidate Starts for Juice456\_99:

(Start: 15 @53720 has 92 MA's),

Gene: KingMidas\_100 Start: 54239, Stop: 54400, Start Num: 15

Candidate Starts for KingMidas\_100:

(Start: 15 @54239 has 92 MA's),

Gene: Krakatau\_93 Start: 50137, Stop: 50298, Start Num: 15

Candidate Starts for Krakatau\_93:

(Start: 15 @50137 has 92 MA's),

Gene: Latretium\_103 Start: 55281, Stop: 55442, Start Num: 15

Candidate Starts for Latretium\_103:

(Start: 15 @55281 has 92 MA's),

Gene: Leperchaun\_102 Start: 55244, Stop: 55405, Start Num: 15

Candidate Starts for Leperchaun\_102:

(Start: 15 @55244 has 92 MA's),

Gene: LilMoolah\_103 Start: 55215, Stop: 55376, Start Num: 15

Candidate Starts for LilMoolah\_103:

(Start: 15 @55215 has 92 MA's),

Gene: Llij\_95 Start: 53166, Stop: 53327, Start Num: 15

Candidate Starts for Llij\_95:

(Start: 15 @53166 has 92 MA's),

Gene: LordVader\_96 Start: 51082, Stop: 51243, Start Num: 15

Candidate Starts for LordVader\_96:

(6, 51001), (Start: 15 @51082 has 92 MA's),

Gene: MAckerman\_95 Start: 58741, Stop: 58914, Start Num: 13

Candidate Starts for MAckerman\_95:

(5, 58627), (7, 58681), (8, 58696), (12, 58732), (Start: 13 @58741 has 8 MA's), (16, 58795), (17, 58903),

Gene: MadMen\_105 Start: 54834, Stop: 54995, Start Num: 15

Candidate Starts for MadMen\_105:

(Start: 15 @54834 has 92 MA's),

Gene: Madiba\_99 Start: 53523, Stop: 53684, Start Num: 15

Candidate Starts for Madiba\_99:

(Start: 15 @53523 has 92 MA's),

Gene: Mandlovu\_98 Start: 52489, Stop: 52650, Start Num: 15

Candidate Starts for Mandlovu\_98:

(Start: 15 @52489 has 92 MA's),

Gene: Mattes\_101 Start: 55152, Stop: 55313, Start Num: 15

Candidate Starts for Mattes\_101:

(Start: 15 @55152 has 92 MA's),

Gene: Milly\_90 Start: 56870, Stop: 57037, Start Num: 15

Candidate Starts for Milly\_90:

(1, 56459), (2, 56474), (3, 56528), (10, 56840), (Start: 15 @56870 has 92 MA's),

Gene: MinionDave\_98 Start: 54626, Stop: 54787, Start Num: 15

Candidate Starts for MinionDave\_98:

(Start: 15 @54626 has 92 MA's),

Gene: Minnie\_95 Start: 55564, Stop: 55725, Start Num: 15

Candidate Starts for Minnie\_95:

(Start: 15 @55564 has 92 MA's),

Gene: Misha28\_90 Start: 54937, Stop: 55098, Start Num: 15

Candidate Starts for Misha28\_90:

(Start: 15 @54937 has 92 MA's),

Gene: Moonbeam\_103 Start: 55059, Stop: 55220, Start Num: 15

Candidate Starts for Moonbeam\_103:

(Start: 15 @55059 has 92 MA's),

Gene: Mufasa\_90 Start: 56727, Stop: 56894, Start Num: 15

Candidate Starts for Mufasa\_90:

(3, 56379), (10, 56697), (Start: 15 @56727 has 92 MA's),

Gene: MulchExplorer\_100 Start: 53491, Stop: 53652, Start Num: 15

Candidate Starts for MulchExplorer\_100:

(Start: 15 @53491 has 92 MA's),

Gene: MulchSalad\_102 Start: 55492, Stop: 55653, Start Num: 15

Candidate Starts for MulchSalad\_102:

(6, 55411), (Start: 15 @55492 has 92 MA's),

Gene: Nimbo\_92 Start: 52816, Stop: 52977, Start Num: 15

Candidate Starts for Nimbo\_92:

(Start: 15 @52816 has 92 MA's),

Gene: Nivrat\_100 Start: 55088, Stop: 55249, Start Num: 15

Candidate Starts for Nivrat\_100:

(Start: 15 @55088 has 92 MA's),

Gene: Ogopogo\_104 Start: 53421, Stop: 53582, Start Num: 15

Candidate Starts for Ogopogo\_104:

(Start: 15 @53421 has 92 MA's),

Gene: OldBen\_97 Start: 54208, Stop: 54369, Start Num: 15

Candidate Starts for OldBen\_97:

(Start: 15 @54208 has 92 MA's),

Gene: PHappiness\_100 Start: 55037, Stop: 55198, Start Num: 15

Candidate Starts for PHappiness\_100:

(Start: 15 @55037 has 92 MA's),

Gene: PMC\_99 Start: 53252, Stop: 53413, Start Num: 15

Candidate Starts for PMC\_99:

(Start: 15 @53252 has 92 MA's),

Gene: Peridot\_103 Start: 54621, Stop: 54782, Start Num: 15

Candidate Starts for Peridot\_103:

(Start: 15 @54621 has 92 MA's),

Gene: Piper2020\_95 Start: 55185, Stop: 55346, Start Num: 15  
Candidate Starts for Piper2020\_95:  
(Start: 15 @55185 has 92 MA's),

Gene: Plumbus\_99 Start: 51933, Stop: 52094, Start Num: 15  
Candidate Starts for Plumbus\_99:  
(Start: 15 @51933 has 92 MA's),

Gene: Poenanya\_104 Start: 55745, Stop: 55906, Start Num: 15  
Candidate Starts for Poenanya\_104:  
(Start: 15 @55745 has 92 MA's),

Gene: Polka14\_104 Start: 55806, Stop: 55967, Start Num: 15  
Candidate Starts for Polka14\_104:  
(Start: 15 @55806 has 92 MA's),

Gene: Pollywog\_102 Start: 55864, Stop: 56025, Start Num: 15  
Candidate Starts for Pollywog\_102:  
(Start: 15 @55864 has 92 MA's),

Gene: QuickMath\_101 Start: 54125, Stop: 54286, Start Num: 15  
Candidate Starts for QuickMath\_101:  
(Start: 15 @54125 has 92 MA's),

Gene: Radiance\_98 Start: 54149, Stop: 54310, Start Num: 15  
Candidate Starts for Radiance\_98:  
(Start: 15 @54149 has 92 MA's),

Gene: Ramsey\_105 Start: 56045, Stop: 56206, Start Num: 15  
Candidate Starts for Ramsey\_105:  
(Start: 15 @56045 has 92 MA's),

Gene: RedBird\_101 Start: 55784, Stop: 55945, Start Num: 15  
Candidate Starts for RedBird\_101:  
(Start: 15 @55784 has 92 MA's),

Gene: Rialto\_105 Start: 55400, Stop: 55561, Start Num: 15  
Candidate Starts for Rialto\_105:  
(Start: 15 @55400 has 92 MA's),

Gene: RitaG\_99 Start: 54839, Stop: 55000, Start Num: 15  
Candidate Starts for RitaG\_99:  
(Start: 15 @54839 has 92 MA's),

Gene: Rockne\_103 Start: 53264, Stop: 53425, Start Num: 15  
Candidate Starts for Rockne\_103:  
(Start: 15 @53264 has 92 MA's),

Gene: Saal\_98 Start: 54854, Stop: 55015, Start Num: 15  
Candidate Starts for Saal\_98:  
(Start: 15 @54854 has 92 MA's),

Gene: Sassafras\_102 Start: 54101, Stop: 54262, Start Num: 15  
Candidate Starts for Sassafras\_102:  
(Start: 15 @54101 has 92 MA's),

Gene: Scottish\_100 Start: 53678, Stop: 53839, Start Num: 15  
Candidate Starts for Scottish\_100:  
(Start: 15 @53678 has 92 MA's),

Gene: ShiLan\_103 Start: 56871, Stop: 57032, Start Num: 15  
Candidate Starts for ShiLan\_103:  
(Start: 15 @56871 has 92 MA's),

Gene: Sparkdehlily\_107 Start: 53349, Stop: 53510, Start Num: 15  
Candidate Starts for Sparkdehlily\_107:  
(Start: 15 @53349 has 92 MA's),

Gene: Spartacus\_107 Start: 57463, Stop: 57624, Start Num: 15  
Candidate Starts for Spartacus\_107:  
(Start: 15 @57463 has 92 MA's),

Gene: Spoonbill\_100 Start: 52784, Stop: 52945, Start Num: 15  
Candidate Starts for Spoonbill\_100:  
(Start: 15 @52784 has 92 MA's),

Gene: Squirty\_99 Start: 57753, Stop: 57914, Start Num: 15  
Candidate Starts for Squirty\_99:  
(6, 57672), (Start: 15 @57753 has 92 MA's),

Gene: Starcevich\_102 Start: 55513, Stop: 55674, Start Num: 15  
Candidate Starts for Starcevich\_102:  
(9, 55471), (Start: 15 @55513 has 92 MA's),

Gene: Strobilo\_91 Start: 56785, Stop: 56952, Start Num: 15  
Candidate Starts for Strobilo\_91:  
(1, 56374), (2, 56389), (3, 56443), (10, 56755), (Start: 15 @56785 has 92 MA's),

Gene: Strokeseat\_98 Start: 52546, Stop: 52707, Start Num: 15  
Candidate Starts for Strokeseat\_98:  
(Start: 15 @52546 has 92 MA's),

Gene: TDanisky\_108 Start: 53349, Stop: 53510, Start Num: 15  
Candidate Starts for TDanisky\_108:  
(Start: 15 @53349 has 92 MA's),

Gene: TM4\_88 Start: 51459, Stop: 51626, Start Num: 15  
Candidate Starts for TM4\_88:  
(2, 51063), (3, 51117), (10, 51429), (Start: 15 @51459 has 92 MA's),

Gene: TootsiePop\_90 Start: 54937, Stop: 55098, Start Num: 15  
Candidate Starts for TootsiePop\_90:  
(Start: 15 @54937 has 92 MA's),

Gene: Totinger\_103 Start: 54913, Stop: 55074, Start Num: 15

Candidate Starts for Totinger\_103:  
(Start: 15 @54913 has 92 MA's),

Gene: Tyson\_98 Start: 60158, Stop: 60331, Start Num: 13  
Candidate Starts for Tyson\_98:  
(5, 60044), (7, 60098), (8, 60113), (12, 60149), (Start: 13 @60158 has 8 MA's), (16, 60212), (17, 60320),

Gene: UPIE\_95 Start: 59398, Stop: 59571, Start Num: 15  
Candidate Starts for UPIE\_95:  
(5, 59272), (8, 59341), (12, 59377), (14, 59389), (Start: 15 @59398 has 92 MA's), (16, 59452), (17, 59560),

Gene: WillSterrel\_98 Start: 54470, Stop: 54631, Start Num: 15  
Candidate Starts for WillSterrel\_98:  
(9, 54428), (Start: 15 @54470 has 92 MA's),

Gene: Wyatt2\_97 Start: 59821, Stop: 59994, Start Num: 13  
Candidate Starts for Wyatt2\_97:  
(5, 59707), (7, 59761), (8, 59776), (12, 59812), (Start: 13 @59821 has 8 MA's), (16, 59875), (17, 59983),

Gene: Yorick\_96 Start: 55531, Stop: 55692, Start Num: 15  
Candidate Starts for Yorick\_96:  
(Start: 15 @55531 has 92 MA's),

Gene: Zaria\_97 Start: 59297, Stop: 59470, Start Num: 13  
Candidate Starts for Zaria\_97:  
(5, 59183), (7, 59237), (8, 59252), (12, 59288), (Start: 13 @59297 has 8 MA's), (16, 59351), (17, 59459),

Gene: ZoeJ\_88 Start: 55979, Stop: 56146, Start Num: 15  
Candidate Starts for ZoeJ\_88:  
(4, 55652), (10, 55949), (Start: 15 @55979 has 92 MA's),